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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,848	03/15/2005	Xuanming Shi	05505-PCT	1877

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EXAMINER	
LIANG, REGINA	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
01/02/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/527,848	SHI, XUANMING	
	Examiner	Art Unit	
	Regina Liang	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 15-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-7, 15-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is response to amendment filed 11/4/08. Claims 1, 4-7, 15-24 are currently pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 4-7, 15-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant relies on Fig. 7 to provide support for "each said electromagnetic induction layer including a wire lattice formed by a single first wire winded along a first direction… and a single second wire winded along a second direction", but the corresponding description [0041] for Fig. 7 of the specification does not disclose "a single first wire winded along a first direction' and "a single second wire winded along a second direction" as claimed. The specification on [0039] for example discloses "the induction layer may be a wire lattice winded and interfaced by the **wires** 52 along the X axis and the **wires** 51 along the Y axis" (emphasis added), which meant

the wire lattice of the induction layer formed by more than one **wires** along a first direction and more than one **wires** along a second direction. There is never any disclosure of a single wire. Therefore, the specification does not provide support for "each said electromagnetic induction layer including a wire lattice formed by a single first wire winded along a first direction… and a single second wire winded along a second direction" as is now claimed in claim 1.

Claim Rejections - 35 USC § 103

5. Claims 1, 4, 5, 7, 15, 19-21, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al (US Re.33,740) in view of Murakami et al (US 4,948,926 hereinafter Murakami) and Binstead (US 6,137,427) and Harada (US 2003/0122774).

As to claim 1, Taguchi discloses a touch control display screen (Figs, 14, 15) with a built-in electromagnetic induction layer (tablet 100) of wire lattice (see Fig. 2), comprising:

at least a display screen (13 in Fig. 15) and a housing (14);

more than one electromagnetic induction layer being provided and overlaid one another behind the display screen (Fig. 13 shows the tablet 100 is located behind the display screen 13; Figs. 2 shows conductor sheets 130a and 130b constitutes one induction layer, conductor sheets 130c and 130d constitutes a second induction layer), and the wire lattices of respective electromagnetic induction layers being set to interlace each other (see Fig. 2).

an induction control circuit (Fig. 11) connected to an output of the wire lattice of the electromagnetic induction layer (tablet 100); and

a display screen control circuit (LCD display drivers in Fig, 17);

wherein position reference columns (Fig. 2, exciting lines 140a-140i, 160a-160g, detecting lines 150a-150h, 170a-170g) are provided around said electromagnetic induction layers (130a-130d).

Taguchi does not disclose each electromagnetic induction layer including a wire lattice formed by a single first wire winded along a first direction with longitudes across the display screen and a single second wire winded along a second direction orthogonal to the first direction with latitudes across the display screen, the first and second wires being interlaced separately with the longitudes crossing the latitudes to form a plurality of induction cells. However, Murakami is cited to teach a position detecting device similar to Taguchi. Figs. 2 and 12 of Murakami teaches the electromagnetic induction layer including a wire lattice formed by a single first wire (42, 51 in Fig. 2; 93 in Fig. 12) winded along a first direction with longitudes across a plane and a single second wire (61, 62 in Fig. 2, 94 in Fig. 12) winded along a second direction orthogonal to the first direction with latitudes across the plane, the first and second wires being interlaced separately with the longitudes crossing the latitudes to form a plurality of induction cells. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify each induction layer of Taguchi to have a wire lattice formed by a single first wire and a single second wire as taught by Murakami since "the precision of position detection in the position detecting apparatus increases, and at the same time, the resolution of the apparatus increases" (col. 4, lines 21-23 of Murakami).

Taguchi as modified by Murakami does not explicitly the first and second wires are insulated with each other at crossing points. However, Binstead teaches in a position detecting apparatus, the first and second wires are insulated with each other at crossing points (see Fig. 2,

an insulating layer 13 forms between the first and second series of conducing elements 12, 14). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the induction layer of Taguchi as modify Murakami to have an insulating layer between the first and second wires as taught by Binstead to prevent unwanted electrical contact between the first and second wires at the crossing points (col. 7, lines 55-56 of Binstead).

Taguchi discloses a display screen control circuit for control the display screen (Fig. 17), but fails to the display screen control circuit is provided in the housing. However, Harada teaches a touch control display screen (10, 12) having a display screen control circuit provided in a single housing so as to provide a portable device (see Figs. 1-3). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the display screen control circuit of Taguchi as modified by Murakami and Binstead to be provided in the same housing so as to provide an integrated and portable computing device.

As to claim 4, Taguchi discloses a shield layer (110b in Fig. 2) is provided behind the induction layer.

As to claim 5, Taguchi discloses a buffering layer (120e, 120f) is provided between the induction layer (130a-130d) and the shielding layer (110b).

As to claim 7, Binstead teaches the first and second wires are enameled wires that are coated with an insulated layer (col. 7, lines 52-56).

As to claim 15, Figs. 1, 2, 11 of Taguchi teaches the induction control circuit (multiplexers 301, 302 and driving current source 200) and the induction layer (tablet 100) are integrated by direct connection and components of the induction control circuit are directly positioned at the output of the wire lattice. Harada teaches the induction control circuit is

positioned in the housing. Thus, Taguchi as modified by Murakami, Binstead and Harada teaches touch control display screen as claimed.

As to claim 19, Figs. 14, 17 of Taguchi teaches the display screen control circuit (42-46 in controller 4) is located outside the touch control display screen (1).

As to claim 20, Figs. 14, 17 of Taguchi teaches the induction control circuit (502-509 in controller 4) is positioned outside the touch control display screen (1) and connected to the touch control display screen through an electrical connection means; the output of the wire lattice of the electromagnetic induction layer (tablet 100) is connected with an output interface (wire connection) of the electromagnetic induction layer by means of pressure-connection, plug-in connection or welding-connection (it would have been obvious to one of ordinary skill in the art at the time the invention was made to use any of these connections as they are well known and commonly used in the art, and use of one over the other is a mere matter of manufacturing cost determination and design structure); and an interface matching the output interface of the electromagnetic induction layer is provided on the induction control circuit (the interconnection between all the components in Fig. 17 correspond to the interface matching).

As to claim 21, Taguchi as modified does not disclose the output interface of the electromagnetic induction layer and the interface of said induction control circuit are one of the following connection types: pin-type connection means, flexible printed circuit means, PIN-PIN connection means, welding spot (VGA) thermal-melted connection means, ultrasonic welding device, solder-plate welding device, or puncture-type connection means. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to

use any of these connections as they are well known and commonly used in the art, the use of one over the other is a mere matter of manufacturing cost determinations and design structure.

As to claim 23, Taguchi teaches display screen (13 in Figs. 14, 15) is a LCD.

As to claim 24, Taguchi as modified does not disclose the cells formed by the wire lattices on the different induction layers have different sizes. However, it would have been an obvious matter of design choice to modify Taguchi as modified to have the cells as claimed, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

6. Claims 6, 16-18, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi, Murakami, Binstead and Harada as applied to claims 1, 5 above, and further in view of Keely, JR. et al (US 2002/0063694 hereinafter Keely).

As to claim 6, Taguchi as modified by Murakami and Binstead and Harada does not disclose a spatial gap is kept between the shielding layer and the display screen control circuit. Keely is cited to teach a touch control display screen similar to Taguchi. Keely teaches an integrated structure of a digitizer and a display combined in single module having a spatial gap is kept between a shielding layer and the display screen control circuit (Fig. 1, a gap is kept between a shielding layer 66 and the display screen control circuit 22). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch control display screen device of Taguchi as modified by Murakami and Binstead and Harada to have the integrated structure with a spatial gap as taught by Keely to minimize the

display module's weight and border width and to reduce the weight and size of the portable system (lines 1-4 in [0031] of Keely).

As to claim 16, Taguchi as modified by Murakami and Binstead and Harada does not the components of the induction control circuit are mounted on a printed circuit board that is separated from the induction layer, the output of the wire lattice of the induction layer is connected to a corresponding input terminal on the printed circuit board by means of pressure-connection, plug-in connection or welding connection. However, Fig. 1 of Keely teaches the integrated structure of a digitizer and a display having the components of the induction control circuit (pen controller) are mounted on a printed circuit board (PCB 72) that is separated from the induction layer (digitizer grid 60), the output of the wire lattice of the induction layer is connected to a corresponding input terminal on the printed circuit board by means of pressure-connection, plug-in connection or welding connection (last 5 lines in [0036]). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch control display screen device of Taguchi as modified by Murakami and Binstead and Harada to have the feature as taught by Keely to minimize the display module's weight and border width and to reduce the weight and size of the portable system (lines 1-4 in [0031] of Keely).

As to claim 17, Fig. 1 of Keely teaches the electromagnetic induction layer (digitizer grid 60) is positioned between a hard sheet (front glass 34) and the printed circuit board (PCB 72); a buffering layer (gap 14) is positioned between the hard sheet (front glass 34) and the output of the wire lattice (digitizer grid 60); the hard sheet (front glass 34), the buffering layer (gap 14) and the output of the wire lattice (digitizer grid 60) are overlaid on the printed circuit board (72) by

means of screwing and pressing connection (it would have been obvious to one having ordinary skill in the art at the time of invention to attach the layers by a means of screwing, or twisting and pressing to gain the commonly understood benefits of a stronger bond between the layers); and the output of the wire lattice (digitizer grid 60) is connected to the corresponding input terminal on the printed circuit board (last 5 lines in [0036]).

As to claim 18, Fig. 1 of Keely teaches a printed circuit board (PCB 22) of said display screen control circuit located inside said housing of said touch control display screen.

As to claim 22, Keely discloses a protective layer (front glass 36) is provided on a front surface of said display screen.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 4-7, 15-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Regina Liang/
Primary Examiner, Art Unit 2629